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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,495	10/31/2001	Zili Li	CM01365I(69613)	3222

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EXAMINER	
AKKAPEDDI, PRASAD R	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/001,495	LI ET AL.	
	Examiner	Art Unit	
	Prasad R Akkapeddi	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 16* is/are pending in the application.

4a) Of the above claim(s) *9-15 and 17-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/31/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/21/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The Affidavit filed on 06/21/2004 under 37 CFR 1.131 is sufficient to overcome the Doane and Schmidt references.

2. Applicant's arguments, see Remarks/Affidavit, filed 06/21/2004, with respect to the rejection(s)of claim(s) 1-8 and 16 under 37 C.F.R. 1.131 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kozaki.

Claim Objections

3. Claim 8 is objected to because of the following informalities: Claim 8 was objected originally in the previous office action. The explanation and the amendment provided is not sufficient to withdraw the objection. The examiner still maintains that the claim as written is still not clear. Amending the claim to add 'topographically' will not provide any new explanation or clarity as to the color of the light-receiving active surface . Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Kozaki (U.S.Patent No. 5,742,367).

As to claim 16: Kozaki discloses a display (1) having a partially transparent backside (light passing through as can be seen from Fig. 2), a solar cell (5) disposed proximal to the backside of the display (Figs. 1and 2) such that some light passing through the display will illuminate the light-receiving active surface of the solar cell (5) (Fig. 2). Kozaki also teaches that the solar cell is formed from silicon and silicon appears black to the visible light and hence it has dark color in the visible wavelength range.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozaki in view of Kobayashi et al. (Kobayashi) (U.S.Patent No. 5,686,017).

a. As to claim 1: Kozaki discloses a liquid crystal display cell (1) for displaying an image (hence reflective) having a super-twisted nematic liquid crystal material and some light passing from the front side and through the backside of the display will illuminate the light-receiving active surface of the solar cell (5).

However, Kozaki does not teach that the liquid crystal is one of selectively reflecting cholesteric and polymer dispersed liquid crystal material.

Kobayashi in disclosing a polymer dispersed liquid crystal display element for use in a reflective type electronic apparatus discloses the use of polymer dispersed element (21) with added chiral component in the front and a solar battery (22) in the backside (Figs. 8-14) of the device.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the polymer dispersed liquid crystal material as disclosed by Kobayashi to the display device of Kozaki to provide a novel PDLC display element having brighter display quality,particularly in bright ambient light as well as to provide less fluorescence and haze effect while improving the overall display contrast (col. 4, lines 5-27).

b. As to claim 2: Kobayashi teaches that reflective type display elements using polymer dispersed liquid crystal medium requires no polarizing plates (col. 2, lines 5-8). Hence, the light does not go through any polarizing layer before illuminating the light receiving active surface.

c. As to claim 3: Kozaki teaches that the solar cell is made out of silicon (col. 3, lines 7-11) and silicon is black in the visible wavelengths.

d. As to claim 6: The operable coupling of the solar cell to the liquid crystal display is disclosed both by Kozaki (col. 3, lines 1-11) and Kobayashi (col. 38, lines 56-61).

e. As to claim 7: Kozaki teaches the use of plurality of solar panels (col. 3, lines 7-8).

f. As to claim 8: Kozaki teaches the use of liquid crystal shutter (4), which has a mask like structure having a plurality of divisional portions so that light can be transmitted selectively partly through any of the divisional portions (col. 3, lines 3-7). The shutter with the divisional portions substantially conforms to the light receiving active surface of the solar cell as can be seen from Fig. 1. The light-receiving active surface is black due to the nature of silicon and the surface having different color is not sufficiently understood as mentioned in the claim objection above and for this examination purposes, it is treated as though the light receiving active surface is black.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kozaki and Kobayashi as applied to claim 1 above, and further in view of Vogeley et al. (Vogeley) (U.S.Patent No. 5,404,185).

As to claim 4: neither Kozaki nor Kobayashi disclose a wireless communications device having a user interface operably coupled to the reflective liquid crystal display.

Vogeley in disclosing a liquid crystal display for projection systems, discloses liquid crystal display is powered by solar cells (Fig. 2) and teaches the use of wireless communications for these display devices (col. 3, lines 18-22).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the wireless communications

thus eliminating the need for external cables connected to the display (col. 3, lines 19-22).

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kozaki and Kobayashi and Vogeley as applied to claim 4 above, and further in view of Komuro (JP-04362917).

As to claim 5: Though a battery charger is commonly used for any kind of communication device, none of the primary authors disclose a battery charger.

Komuaro in disclosing a LCD device discloses a LCD panel (1), solar cell (2), a battery (5) and a battery charger (page 2, line 11).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt a charger for prolong the useful time of a portable machinery using an LCD device as a display without increasing the capacity of a battery (see purpose, page 1, lines 1-4).

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (a) Tani et al. (U.S.Patent No. 4,095,217) (b) Laesser (U.S.Patent No. 4,139,279) (Applicant disclosed prior art).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 571-272-2285. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prasad R Akkapeddi, Ph.D
Examiner
Art Unit 2871

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TARIFUR R. CHOWDHURY
PRIMARY EXAMINER